



## Multiple Sclerosis Center

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### CCSVI and Multiple Sclerosis: An Advisory Statement from the Stanford Multiple Sclerosis Center

There has been tremendous public interest in the role of "chronic cerebrospinal venous insufficiency" (or CCSVI) in Multiple Sclerosis. The Stanford Multiple Sclerosis Center has received numerous inquiries asking whether our Center recommends and offers this procedure, or is conducting research to investigate potential merit. We offer this advisory in an "FAQ" format to provide you an up to date review of CCSVI in MS.

#### What is "CCSVI?"

CCSVI stands for "chronic cerebrospinal venous insufficiency." It is the name given to insufficient venous drainage of blood from the brain. Working in Italy, Dr. Paolo Zamboni and colleagues at the University of Ferrara have reported evidence of abnormal venous drainage in MS patients. The internal jugular and azygous veins below the skull have been implicated specifically. Using ultrasonographic technology, Dr. Zamboni and collaborators have reported seeing evidence of narrowing, twisting and obstruction in these veins that they hypothesize leads to impaired drainage of blood from the brain, possibly contributing to a backflow phenomenon that prompts brain inflammation. If Multiple Sclerosis is associated with chronic cerebrospinal venous insufficiency, it has been suggested that opening the venous pathways could decrease the inflammation of MS. Opening the veins would require surgical procedure, such as percutaneous transluminal angioplasty (PTA), balloon angioplasty, or venous stenting.

#### Does the Stanford MS Center recommend CCSVI treatment?

No, not at this time. There is insufficient evidence of benefit, and possible risk. Dr. Zamboni and collaborators in Italy have recently published results of preliminary research investigating whether a procedure known as percutaneous transluminal angioplasty (PTA) of selected extracranial veins shows any benefit in Multiple Sclerosis patients (Zamboni P et al 2009; Journal of Vascular Surgery; 50; 6: 1348-1358). Their publication has generated considerable excitement because it claims that PTA "positively influenced" quality of life parameters in 65 treated MS patients while being a safe and well tolerated procedure. News of these findings has been reported to the public by traditional media such as print and broadcast outlets in Canada; and has proliferated in new media on websites and in the blogosphere.

As a general statement, Multiple Sclerosis is a notoriously difficult disease to assess. MS is a very heterogeneous disease, different from person to person, and even different within a given individual over time. These characteristics make the true efficacy of treatments for MS especially difficult to gauge. This is why previous clinical research investigating medical treatments for MS have traditionally required years of investigation involving hundreds of patients before reliable conclusions about benefit can be made. The research conducted by Dr. Zamboni offers a theory that merits further consideration and testing, but does not satisfy the statistical vigor required to conclude that PTA of extracranial veins is definitely helpful for MS.

#### What is the Stanford MS Center doing about this exciting new idea?

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Stanford University has identified and created an interdisciplinary team of MS specialist clinicians, neuroimmunologists, vascular specialists and neuroradiologists to investigate the role of CCSVI in Multiple Sclerosis. We are actively working on a study that would investigate whether veins are abnormal in MS patients. We have applied for expedited grant funding to enable us to begin this study in the immediate future. The study would identify patients with MS, and identify others of similar age and background who do not have MS, and both groups would undergo advanced magnetic resonance imaging that would image the brain and the brain's blood vessels. These images would be reviewed by certified neuroradiologists who do not know the clinical diagnosis in any given case. We plan to enroll 100 subjects in this first preliminary study if we are successful in obtaining grant funding.

#### **How Can I stay updated on CCSVI?**

The Stanford MS Center will be regularly updating this advisory, here at this website, to keep you up to date on developments.

With best wishes for your good health and well-being;

The Stanford MS Center

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